



**ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
MARCH 2, 2006 – 8:00 A.M.
MULTI-MODAL CONFERENCE ROOM**

Present: L. Tibbits J. Polasek M. VanPortFleet
J. D. Culp M. Chaput T. Fudaly
C. Bleech E. Burns

Absent: J. Friend B. O'Brien J. W. Reincke
C. Roberts

Guests: S. Kahl F. Spica

OLD BUSINESS

1. Approval of the Minutes of the February 1, 2006, Meeting – L. Tibbits

The February 1, 2006, meeting minutes are approved with minor corrections.

NEW BUSINESS

1. Traffic Noise Barriers – F. Spica

MDOT owns 47 miles of noise barriers, with the first barrier built in 1973 and ranging in age from 33 years to new. The original construction cost for a noise barrier was approximately \$75 million, with a total replacement cost of approximately \$235 million. There is no system in place for long term management. Many of MDOT's noise barriers are directly adjacent to roadways and residential homes. The structural integrity needs to be investigated to ensure public safety.

It is recommended to create a formal traffic noise barrier inspection program, with the Construction and Technology Support Area oversight, to maintain consistency throughout the State. Some of the program benefits will include:

- A centrally located and managed noise barrier database with region accessibility.
- Controlled inspection frequency to document the conditions of the noise barriers throughout their life cycle
- Scheduled maintenance, allowing prioritization based on highest need.
- Scheduled maintenance also gives planners the data required to program maintenance costs, rather than unforeseen maintenance expenditures.

ACTION: The recommendation to create a formal noise barrier program is approved. Construction and Technology staff will contact other DOTs for

information on their programs. They will also coordinate with the Physical Features Inventory.

2. **Construction and Technology Technical Investigation Report, *Investigation of Breakaway Light Standards* – R. Till and S. Kahl**

The purpose of this investigation was to determine the cause of failure of a breakaway light standard collapse on southbound US-131, which revealed the following. The slots to accommodate variable bolt circle sizes on the steel screw-in foundation allowed movement of the anchor bolts. The improper installation of a non-approved Union Metal A2852 breakaway transformer base, by not using the required anchor clips, resulted in minimal washer contact to the breakaway transformer base tabs. The sloped tab surface promoted freedom of movement from wind force and loosening of the foundation to breakaway transformer base connections on all but one bolt. Wind force was then sufficient to overcome the resistive force of one bolt connection and break the tab. As the wind that day was gusting from the west-southwest, blowing into oncoming traffic on southbound US-131, and the arm (weighing 100 lbs) was cantilevered out towards the roadway, the breakaway light standard collapsed in the general direction of the wind and roadway.

The following action items were developed as a result of the investigation into breakaway light standards:

- Statewide inspection of breakaway light standards every four years.
- A new template “replacement of existing freeway lights” was created for systematic replacement of light standards, including breakaway light standards. Replacement will be included in new projects as selected annually by the regions.
- Establish a timetable and identify funding sources for region maintenance forces to perform corrective action as noted in the report.
- Creation and maintenance of a qualified products list for breakaway transformer bases.
- Inspection of new and retrofit installations of breakaway light standards for compliance with the special provision.
- Prohibition of steel screw-in foundations.

With proper maintenance, a typical breakaway light standard correctly installed on a concrete foundation can remain in service for at least 50 years, based on the design wind speed recurrence interval. Continued inspection will provide the margin of safety desired by the department, and assure the public that incidents of the type that occurred on November 23, 2004, will not be repeated. The Attorney General’s office has reviewed this report.

ACTION: EOC approved the report, and requested Construction and Technology staff to coordinate items in the action plan with the Physical Feature Inventory and the Design Support Area's Electrical Unit.

(Signed Copy on File at C&T)

Eric Burns for Brenda J. O'Brien, Secretary
Engineering Operations Committee

EB:kar

cc:	K. Steudle	S. Mortel	J. Steele (FHWA)
	J. Shinn	D. Jackson	R. Brenke (ACEC)
	L. Hank	W. Tansil	G. Bukoski (MITA)
	EOC Members	D. Wresinski	D. DeGraaf (MCPA)
	Region Engineers	C. Libiran	D. Hollingsworth (MCA)
	TSC Managers	R. J. Lippert, Jr.	J. Becsey (APAM)
	Assoc. Region Engineers	T. L. Nelson	M. Newman (MAA)
	T. Kratofil	T. Phillips	C. Mills (MPA)
	M. DeLong	K. Peters	J. Murner (MRPA)
	B. Shreck	J. Ingle	G. Naeyaert (ATSSA)
	C&T Staff		